Please cancel claims 1-14, 17-21 without prejudice.

Please add the following new claims consecutively numbered from the highest number already presented:

22.A device for extracting gas bubbles from blood comprising:

a housing having an input channel and an outlet channel;

said input channel and said outlet channel being concentric along a housing axis;

a chamber section coupled to said inlet channel and located after said inlet channel;

an eddy chamber coupled to said chamber section and located after said chamber section;

an outlet channel coupled to said eddy chamber and located after said eddy chamber;

an insert body located in said chamber section and extending into said eddy chamber;

at least one rib extending between said insert body and said chamber section interior wall , forming a helical groove in said chamber section and not extending into said eddy chamber;

a gas outlet located along said axis **in said eddy chamber**;

whereby blood containing gas bubbles entering said input channel are directed into said chamber section where said helical groove accelerates said blood and causes it to enter said eddy chamber on a tangent with a tangential velocity

23.A device for extracting gas bubbles from blood comprising:

a housing having an input channel and an outlet channel;

said input channel and said outlet channel being concentric along a housing axis;

a chamber section coupled to said inlet channel and located after said inlet channel;

an eddy chamber coupled to said chamber section and located after said chamber section;

an outlet channel coupled to said eddy chamber and located after said eddy chamber;

an insert body located in said chamber section and extending into said eddy chamber;

at least one rib extending between said insert body and said chamber section interior wall , forming a helical groove in said chamber section and not extending into said eddy chamber;

a gas outlet located along said axis **in said outlet channel**;

whereby blood containing gas bubbles entering said input channel are directed into said chamber section where said helical groove accelerates said blood and causes it to enter said eddy chamber on a tangent with a tangential velocity.

24. The device of claim 22 wherein said helical groove has a constant cross sectional area.

25. The device of claim 23 wherein said helical groove has a cross sectional area that decreases from said input toward said outlet channel.

26. The device of claim 22 wherein said rib has a fixed pitch and said helical groove has a constant cross sectional area.

27. The device of claim 23 wherein said rib has a variable pitch along the length of said chamber section and said helical groove has a cross sectional area that decreases from said input toward said outlet channel.

28. The device of claim 22 wherein said eddy chamber has a cross sectional area that gradually increases toward said gas outlet.

29. The device of claim 23 wherein said eddy chamber has a cross sectional area that gradually increases toward said gas outlet.

30. A method of removing gas bubbles from blood comprising the steps of:

introducing blood into a helical groove where it is accelerated both axially and radially forming an accelerated blood flow ;

introducing said accelerated blood flow into an eddy chamber along a tangent, where said blood is allowed to continue to turn while decelerating;

extracting a portion of said blood flow from a location near the central axis of flow.